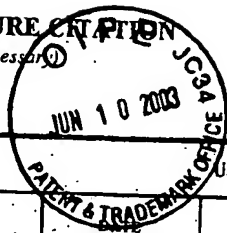


**INFORMATION DISCLOSURE CITATION**  
(Use several sheets if necessary)



Docket Number (Optional) <b>02560039AA</b>	Application Number <b>10/015,954</b>
Applicant(s) <b>T. Rappaport et al.</b>	
Filing Date <b>12/17/01</b>	Group Art Unit

**U.S. PATENT DOCUMENTS:**

*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
<i>[Signature]</i>	1	4,675,147	6-23-87	Schaefer et al.			4-6-83
	2	4,736,453	4-5-88	Schloemer			12-10-85
	3	4,885,694	12-5-89	Pray et al.			4-29-87
	4	5,111,392	5-5-92	Malin			6-9-89
	5	5,119,307	6-2-92	Blaha et al.			12-22-89
	6	5,239,487	8-24-93	Horejsi et al.			10-24-90
	7	5,293,640	3-8-94	Gunmar et al.			
	8	5,307,261	4-26-94	Maki et al.			6-28-91
	9	5,337,149	8-9-94	Kozah et al.			11-12-92
<i>[Signature]</i>	10	5,339,184	8-16-94	Tang			6-15-92
	11	5,375,123	12-20-94	Andersson et al.			2-5-93

**FOREIGN PATENT DOCUMENTS**

REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO

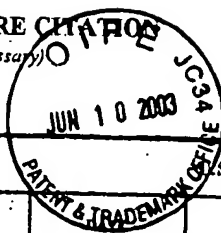
**OTHER DOCUMENTS** (Including Author, Title, Date, Pertinent Pages, Etc.)


EXAMINER <i>[Signature]</i>	DATE COMPLETED <b>12/23/03</b>
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# INFORMATION DISCLOSURE CHART

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Applicant(s) <b>T. Rappaport et al.</b>		
Filing Date <b>12/17/01</b>	Group Art Unit	

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	REV	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
<i>QJ</i>	12	5,394,522	2-28-95	Sanchez-Frank et al.			9-13-93
	13	5,450,615	9-12-95	Fortune et al.			12-22-93
	14	5,458,123	10-17-95	Unger			4-29-94
	15	5,465,390	11-7-95	Cohen			2-12-93
	16	5,482,050	1-9-96	Smokoff et al.			2-17-94
	17	5,485,568	1-16-96	Venable et al.			10-8-93
	18	5,491,644	2-13-96	Pickering et al.			9-7-93
	19	5,491,837	2-13-96	Haartsen			3-7-94
	20	5,493,679	2-20-96	Virgil et al.			10-29-93
	21	5,515,269	5-7-96	Willis et al.			11-8-93
<i>B</i>	22	5,528,518	6-18-96	Bradshaw et al.			10-25-94

## FOREIGN PATENT DOCUMENTS

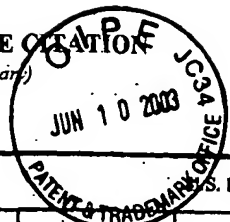
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## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)


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U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
QB	23	5,539,665	7-23-96	Lanning et al.			7-25-94
	24	5,553,312	9-3-96	Gatley et al.			6-20-94
	25	5,553,620	9-10-96	Snider et al.			5-2-95
	26	5,555,354	9-10-96	Strasnick et al.			3-23-93
	27	5,561,841	10-1-96	Markus			
	28	5,564,070	10-8-96	Want et al.			7-30-93
	29	5,594,946	1-14-97	Menich et al.			2-28-95
	30	5,598,532	1-28-97	Liron			10-21-93
	31	5,625,827	4-29-97	Krause et al.			12-23-94
	32	5,636,344	6-3-97	Lewis			8-22-91
JB	33	5,689,355	11-18-97	Okubo et al.			7-1-96

FOREIGN PATENT DOCUMENTS

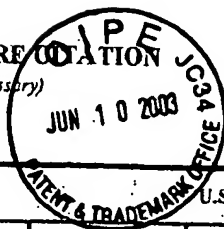
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**U.S. PATENT DOCUMENTS**

EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
<i>CB</i>	34	5,761,093	6-2-98	Urbish et al.			5-8-97
	35	5,794,128	8-11-98	Brockel et al.			9-20-95
	36	5,799,154	8-25-98	Kuriyan			6-27-96
	37	5,809,282	8-15-98	Cooper et al.			6-7-95
	38	5,815,395	9-29-98	Hart et al.			6-29-95
	39	5,828,960	10-27-98	Tang et al.			3-31-95
	40	5,831,610	11-3-98	Tonelli et al.			2-23-96
	41	5,832,389	11-3-98	Dent			4-3-96
	42	5,861,887	1-19-99	Butler et al.			12-5-95
	43	5,867,112	2-2-99	Kost			5-14-91
<i>DB</i>	44	5,877,777	3-2-99	Colwell			4-7-97

**FOREIGN PATENT DOCUMENTS**

REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO

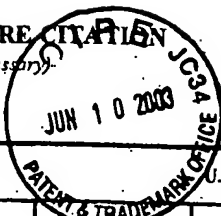
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## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
<i>JD</i>	45	5,878,328	3-2-99	Chawla et al.			12-21-95
	46	5,907,850	5-25-99	Krause et al.			1-21-97
	47	5,917,808	6-29-99	Kosbab			1-17-97
	48	5,923,850	7-13-99	Barroux			6-28-96
	49	5,926,762	7-20-99	Arpee et al.			5-17-96
	50	5,940,196	8-17-99	Piehler et al.			5-16-97
	51	5,945,976	8-31-99	Iwamura et al.			12-10-96
	52	5,948,055	9-7-99	Pulsipher et al.			8-29-96
	53	5,949,335	9-7-99	Maynard			4-14-98
	54	5,949,988	9-7-99	Feisullin et al.			4-3-97
<i>03</i>	55	5,953,669	9-14-99	Stratis et al.			12-11-97

## FOREIGN PATENT DOCUMENTS

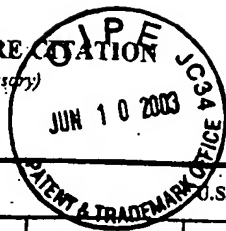
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## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)


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**U.S. PATENT DOCUMENTS**

*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
<i>27</i>	56	5,963,867	10-5-99	Reynolds et al.			8-16-95
	57	5,970,406	10-19-99	Komara			12-31-96
	58	5,987,328	11-16-99	Ephremides et al.			4-24-97
	59	6,006,021	12-21-99	Tognazzini			7-1-96
	60	6,018,625	1-25-00	Hayball et al.			8-27-97
	61	6,021,316	2-1-00	Heiska et al.			
	62	6,032,105	2-29-00	Lee et al.			7-31-97
	63	6,038,547	3-14-00	Casto			1-7-98
	64	6,044,273	3-28-00	Tekinay			12-10-96
	65	6,058,102	5-2-00	Drysdale et al			11-6-98
<i>8</i>	66	6,058,262	5-2-00	Kawas et al.			4-18-97

**FOREIGN PATENT DOCUMENTS**

REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
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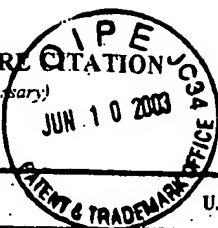
**OTHER DOCUMENTS** (Including Author, Title, Date, Pertinent Pages, Etc.)


EXAMINER <i>S. Bluff</i>	DATE CONSIDERED <i>12/23/03</i>
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Applicant(s) <b>T. Rappaport et al.</b>	
Filing Date <b>12/17/01</b>	Group Art Unit

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
DB	67	6,059,842	5-9-00	Dumarot et al.			4-14-98
	68	6,061,722	5-9-00	Lipa et al.			12-23-96
	69	6,075,541	6-13-00	Maclinovsky			11-7-97
	70	6,088,522	7-11-00	Lee et al.			7-31-97
	71	6,104,699	8-15-00	Holender et al.			
	72	6,108,309	8-22-00	Cohoe et al.			12-8-97
EB	73	6,111,857	8-29-00	Soliman et al.			9-11-97
	74	6,122,083	9-19-00	Ohta et al.			10-3-94
	75	6,148,010	11-14-00	Sutton et al.			6-24-98
	76	6,199,032	3-6-01	Anderson			7-22-98
	77	6,204,813	3-20-01	Wadell et al.			2-20-98

## FOREIGN PATENT DOCUMENTS

REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO

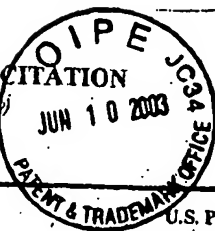
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Docket Number (Optional)

02560039AA

Application Number

10/015,954

Applicant(s)

T. Rappaport et al.

Filing Date

12/17/01

Group Art Unit

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
Q	78	6,208,833	3-27-01	Preschutti et al.			6-24-97
	79	6,229,540	5-8-01	Tonelli et al.			10-13-98
	80	6,253,086	6-26-01	Parantainen et al.			3-25-99
	81	6,285,377	9-4-01	Greenbaum et al.			6-26-97
	82	6,289,203	9-11-01	Smith et al.			2-25-98
	83	6,317,599	11-13-01	Rappaport et al.			5-26-99
	84	6,326,987	12-4-01	Alexander			12-19-00
	85	6,330,005	12-11-01	Tonelli et al.			10-6-99
	86	6,311,144	10-30-01	Abu El Ata			7-31-98
	87	6,337,688	1-8-02	Berstis			1-29-99
W	88	6,338,031	1-8-02	Lee et al.			9-23-99

## FOREIGN PATENT DOCUMENTS

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## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

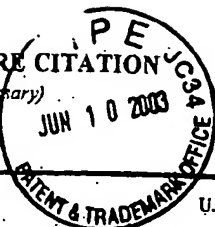
EXAMINER	<i>Blair</i>	DATE CONSIDERED	12/23/03
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## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
90	89	6,356,758	3-12-02	Almeida et al.			12-31-97
	90	6,393,432	5-21-02	Flansburg et al,			6-2-99
	91	6,408,312	6-18-02	Forthman et al.			8-30-99
	92	6,442,507	8-27-02	Skidmore et al.			12-29-98
	93	6,470,195	10-22-02	Meyer			10-31-00
	94	6,487,417	11-26-02	Rossoni et al.			11-24-99
	95	6,493,679	12-10-02	Rappaport et al.			5-26-99
	96	6,496,290	12-17-02	Lee			12-17-98
	97	6,499,006	12-24-02	Rappaport et al.			7-14-99
	98	6,505,045	1-7-03	Hills et al.			4-10-00
93	99	5,586,254	12-17-96	Kondo			

## FOREIGN PATENT DOCUMENTS

REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)


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Filing Date <b>12/17/01</b>	Group Art Unit

PATENT DOCUMENTS

*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE, IF APPROPRIATE
<b>EB</b>	100	6,085,335	7-4-00	Djoko et al.			12-31-97
	101	5,710,758	1-20-98	Soliman et al.			9-29-95
	102	5,821,937	10-13-98	Tonelli et al.			8-12-96
	103	5,774,669	6-30-98	George et al.			7-28-95
	104	5,802,146	9-1-98	Dulman			11-22-95
	105	5,825,759	10-20-98	Liu			7-24-95
	106	5,845,124	12-1-98	Berman			5-1-96
	109	6,199,032	3-6-01	Anderson			7-22-98
	110	5,467,441	11-14-95	Stone et al.			10-6-94
	111	6,243,772	6-5-01	Ghori et al.			1-31-97
<b>EB</b>	112	5,994,984	11-30-99	Stancil et al.			5-29-98

REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	YES	NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

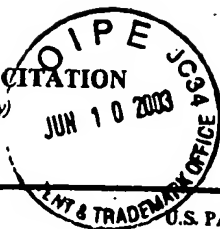
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EXAMINER <b>EB</b>	DATE CONSIDERED <b>12/23/03</b>
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10/015,954

Applicant(s)

T. Rappaport et al.

Filing Date

12/17/01

Group Art Unit

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
28	113	5,977,851	11-2-99	Stancil et al.			11-13-97
28	114	5,755,072	5-26-98	Lingafelter			5-13-98

## FOREIGN PATENT DOCUMENTS

REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO

## OTHER DOCUMENTS

(Including Author, Title, Date, Pertinent Pages, Etc.)

28		From Bird's Eye Real-time Mapping Software dated 6-30-02
28		IEEE Transactions on Antennas and propagation, Vol. 46, No. 8, August 1998. "Effect of Terrain on Path Loss in Urban Environments for Wireless Applications" Leonard Piazzi and Henry L. Bertoni

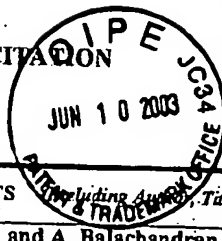
EXAMINER

DATE CONSIDERED

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Filing Date 12/17/01	Group Art Unit

EXAMINER INITIAL	OTHER DOCUMENTS (Including Abstract, Title, Date, Pertinent Pages, Etc.)
JP	1 P. Bahl, V. Padmanabhan, and A. Balachandran, "A Software System for Locating Mobile Users: Design, Evaluation, and Lessons," Microsoft Technical Report, April 2000
	2 G. Durgin, T.S. Rappaport, H. Xu, Measurements and Models for Radio Path Loss and Penetration Loss in and Around Homes and Trees at 5.85 GHz," IEEE Transactions on Communications, vol. 46, no. 11, November 1998.
	3 C.M. Peter Ho et al., "Antenna Effects on Indoor Obstructed Wireless Channels and a Deterministic Image-Based Wide-Band Propagation Model for In-Building Personal Communications Systems," International Journal of Wireless Information Networks, Vol. 1, No. 1, 1994.
	4 S. Kim et al., "Radio Propagation Measurements and Predictions Using Three-dimensional Ray Tracing in Urban Environments at 908 MHz and 1.9 GHz," IEEE Transactions on Vehicular Technology, vol. 48, no. 3, May 1999
	5 T.S. Rappaport et al., "Use of Topographic Maps with Building Information to Determine Antenna Placements and GPS Satellite Coverage for Radio Detection and Tracking in Urban Environments," MPRG Technical Report MPRG-TR-95-14, Virginia Tech, September 1995
	6 R.K. Morrow, Jr. and T.S. Rappaport, "Getting In," Wireless Review Magazine, March 2000.
	7 Wireless Valley Communications, Inc., "SitePlanner 3.16 for Windows 95/98/NT User's Manual," Software User's Manual, pp.5-148 to 5-156, 1999.
	8 M. Panjwani et al., "Interactive Computation of Coverage Regions for Wireless Communication in Multifloored Indoor Environments," IEEE Journal on Selected Areas in Communications, Vol. 14, No. 3, April 1996.
	9 L. Piazzzi and H.L. Bertoni, "Achievable Accuracy of Site-Specific Path-Loss Predictions in Residential Environments" IEEE Transactions on Vehicular Technology, vol. 48, no. 3, May 1999.
	10 T.S. Rappaport et al., "Wireless Communications: Past Events and a Future Perspective", IEEE Communications Magazine, May 2002.
	11 T.S. Rappaport et al., "Radio Propagation Prediction Techniques and Computer-Aided Channeling Modeling for Embedded Wireless Microsystems," ARPA Annual Report, MPRG Technical Report MPRG-TR-94-12, Virginia Tech, July 1994.
eh	12 T.S. Rappaport et al., "Use of Topographic Maps with Building Information to Determine Antenna Placements for Radio Detection and Tracking in Urban Environments," MPRG Technical Report MPRG-TR-95-14, Virginia Tech, November 1995

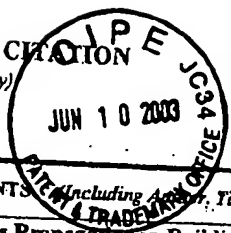
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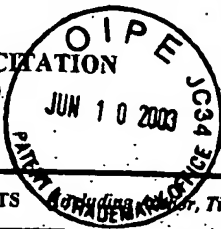
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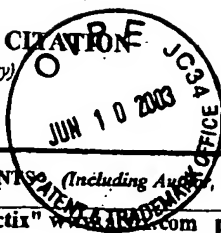
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